

Appl. No. : 10/648,848  
Filed : August 21, 2003

### REMARKS

Claims 24, 25 and 27-45 are currently pending. Claims 1-23 and 26 have been canceled. Claims 32-34 and 41-43 have been amended. Support for the amendments to claims 32-34 and 41-43 can be found at page 18; page 31, third paragraph; page 40, third paragraph and elsewhere throughout the specification. As such, no new matter has been introduced by way of these claim amendments.

In addition to the foregoing amendments, new claims 44 and 45 have been added. Support for these claims can be found at page 41 third paragraph and elsewhere throughout the specification. Accordingly, the newly added claims present no new matter.

After carefully considering the instant Office Action, Applicants respectfully traverse the Examiner's rejection of claims 24-43.

#### Rejection of claims 31-34 and 41-43 under 35 U.S.C. § 112, second paragraph

The Examiner rejects claims 31-34 and 41-43 under 35 U.S.C. § 112, second paragraph as allegedly "failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." In particular, the Examiner asserts that claim 31 is unclear because the phrase "universal bases" is allegedly confusing when used in connection with the phrase "variable sequence." Additionally, the Examiner asserts that claims 32 and 41 are unclear because the phrase "at least one nucleic acid" allegedly lacks antecedent basis. Furthermore, the Examiner asserts that claims 32 and 41 are indefinite because it is allegedly unclear as to which subset of combinatorial decoding probes that the phrase "said subset" refers. Finally, the Examiner alleges that the phrase "decoding nucleotide comprises," as used in claims 33, 34, 42 and 43, does not make grammatical sense.

Applicants respectfully submit that unamended claims 31-34 and 41-43 are sufficiently clear; however, in order to expedite the allowance of the instant patent application, Applicants have amended claims 32-34 and 41-43. In particular, claims 32 and 41 have been amended to recite "at least one decoding sequence" in place of "at least one nucleic acid." In addition, these claims have been amended to recite "said first set of decoding sequences" in place of "said subset." Finally, claims 33, 34, 42 and 43 have been amended in accordance with the Examiner's suggestion. Specifically, Applicants have replaced the term "comprises" with the term "is."

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In view of the foregoing amendments, Applicants respectfully request that the Examiner withdraw the rejection of claims 32-34 and 41-43 under 35 U.S.C. § 112, second paragraph.

With respect to claim 31, the Examiner asserts that, in the context of the recited variable sequences, it is unclear what is meant by the term "universal bases." Applicants respectfully submit that a skilled artisan would find claim 31 (and also claim 40, which includes the same limitation as claim 31) clear as written. Claim 31 depends from claim 25, which, in turn, depends from independent claim 24. Independent claim 24 recites, among other things, "a first set of combinatorial decoding probes comprising a priming sequence complementary to said primer sequence, a variable sequence and at least one decoding nucleotide . . . ." Dependent claim 25 includes a limitation that relates to "providing a second set of combinatorial decoding probes." Dependent claim 31 introduces a limitation that requires the variable sequences to include universal bases. As can be seen from the plain language of claim 24, the probes contained in the set of decoding probes comprise a variable sequence. One way to construct a variable probe sequence is to permit more than one type of nucleotide to be present at a desired position in the probe sequence. For example, probe 1 of the decoding probe set may contain guanine at position 1 of the variable sequence, whereas probe 2 of the decoding probe set may contain thymine at position 1 of the variable sequence, whereby position 1 is referred to as a degenerate position. Probe sets containing such variable sequences are commonly referred to as a degenerate probe sets. Methods of designing such probe sets are described in the specification at pages 30 and 31. As an alternative to creating a variable sequence by using more than one type of nucleotide at a desired position of the probe sequence, a universal base can be provided at the desired position. In the above example, probes 1 and 2 of the decoding probe set would contain a universal base at position 1 of the variable sequence. Furthermore, in some cases, a variable sequence is one that includes both a degenerate position and another position containing a universal base, or even a sequence that includes only universal bases. Thus, it would be clear to one of ordinary skill in the art that a variable sequence can be constructed in a set of decoder probes by providing universal bases at desired positions in the sequence. As such, the skilled artisan would understand that the "variable sequence" recited in claim 31 can include "universal bases."

In view of the foregoing remarks, Applicants respectfully request that the Examiner withdraw the rejection of claim 31 under 35 U.S.C. § 112, second paragraph.

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Obviousness-type Double Patenting

The Examiner rejects claims 24, 25 and 27-43 under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-13 of U.S. Patent No. 6,620,584 (the '584 Patent).

Applicants do not agree that claims 24, 25 and 27-43 are obvious over claims 1-13 of the '584 Patent. However, in order to expedite the allowance of the currently pending claims, Applicants file a terminal disclaimer herewith.

In view of the terminal disclaimer filed herewith, Applicants respectfully request that the Examiner withdraw the obviousness-type double patenting rejections of claims 24, 25 and 27-43.

**CONCLUSION**


Applicants believe that all outstanding issues in this case have been resolved and that the present claims are in condition for allowance. Nevertheless, if any undeveloped issues remain or if any issues require clarification, the Examiner is invited to contact the undersigned at the telephone number provided below in order to expedite the resolution of such issues.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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